UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,372	10/21/2003	Manish Sharma	200300379-1	6541

22879 7590 09/08/2005

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER	
PHAN, TRONG Q	
ART UNIT	PAPER NUMBER
2827	

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/690,372	SHARMA, MANISH	
	Examiner	Art Unit	
	TRONG PHAN	2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features as recited in claims 9, 15, 19, 24 and 29 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

It is not understood how the orientation of the array of soft-reference magnetic memory cells can be changed upon the application of the externally-applied magnetic field as applied by a magnetically tipped stylus as shown in the drawings of the present invention and as recited in claims 1-3. Since first the direction of the orientation of magnetization of the memory array 102 of the present invention is determined by the external magnetic field provided by an externally supplied current through row 208 and column 210 as clearly defined in lines 2-8, page 8 of the specification; secondly, it is not understood how the magnetically tipped stylus 110 can be pointed to more than one memory cell in the memory array 102 at a same time to carry out the refresh operation for substantially all memory cells in the array as recited in claims 21-28.

It is not understood the orientation of magnetization of a given memory cells can be shown by a display as recited in claims 3, 8-9, 14-15, 19-20, 23-24 28-29 and 34. Since the display characterized by an array of pixels having each memory cell being coupled to at least one pixel is not shown in the drawings of the present invention.

It is not understood what type of refresh operation as described in the specification and as recited in claims 21-28. Since magnetic memory device has been widely well known as having no need of refresh operation.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-4, 8, 10, 14, 16, 20-21, 23, 25-26, 28, 30, 32 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-2, 4, 10 and 31-32, no antecedent basis for "the substantially proximate application".

Claims 16, 21 and 26, no antecedent basis for "the substantially proximate application" (lines 4-5) and "the resistance" (line 12).

Claims 3, no antecedent basis for "the information displayed upon the display proximate to the given memory cell".

Claims 8, 14 and 34, no antecedent basis for "the information displayed upon the display proximate to the given sense layer".

Claims 20, 25 and 30, no antecedent basis for "the condition of the digitizing device".

Claims 23 and 28, no antecedent basis for "the resistance".

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude"

granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-34 are, insofar as understood, rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-30 of U.S. Patent No. 6,760,016. Although the conflicting claims are not identical, they are not patentably distinct from each other because: the digitizing tablet comprised of an array of magnetic random access memory (MRAM) cells as recited in claims 1-30 of U.S. Patent No. 6,760,016, is obviously read on the soft-reference magnetic memory digitizing device as recited in claims 1-34 of the present invention.

8. Claims 1-34 are, insofar as understood, rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,781,578. Although the conflicting claims are not identical, they are not patentably distinct from each other because: the digitizing tablet comprised of an array of magnetic random access memory (MRAM) cells as recited in claims 1-19 of U.S. Patent No. 6,781,578, is obviously read on the soft-reference magnetic memory digitizing device as recited in claims 1-34 of the present invention.

9. Claims 1-34 are, insofar as understood, rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of U.S. Patent No. 6,798,404. Although the conflicting claims are not identical, they are not patentably distinct from each other because the digitizing tablet comprised of an array of magnetic random access memory (MRAM) cells as recited in claims 1-24 of U.S. Patent No. 6,798,404, is obviously read on the soft-reference magnetic memory digitizing device as recited in claims 1-34 of the present invention.

10. Claims 1-34 are, insofar as understood, rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 6,924,793. Although the conflicting claims are not identical, they are not patentably distinct from each other because: the digitizing tablet comprising an MRAM-array as recited in claims 1-21 of U.S. Patent No. 6,924,793, is obviously read on the soft-reference magnetic memory digitizing device as recited in claims 1-34 of the present invention.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 1-34 are, insofar as understood, rejected under 35 U.S.C. 103(a) as being unpatentable over Redon et al., 6,603,677, in view of Moser, 6,121,771.

Redon et al., 6,603,677, discloses in Fig. 1, a magnetic tunnel junction (MTJ) memory cell 2, which can be used in a memory cell array of MRAM device, comprising:

ferromagnetic soft-reference layer having a free alterable orientation of magnetization (bi-directional arrow) oriented by an external magnetic field 9, an anti-ferromagnetic having a anchored/non-pinned orientation of magnetization (unidirectional arrow) and an intermediate layer in between; wherein: during the read mode, the resistance of the magnetic tunnel junction to be measured; during the write mode, currents flowing current supply line (6) and conductor (8) causing reversal of the magnetization substantially all the memory cells in the array to a predetermined orientation (see lines 44-55, column 1) which is obviously rendered the refresh step as recited in claims 16-30.

What is not shown in Fig. 1 of Redon et al., 6,603,677, is the magnetically tipped stylus of permanent magnet as recited in claims 1, 4, 6, 10, 12 and 31; and the display as recited in claims 3, 8-9, 14-15, 18-19, 23-24, 28-29 and 34.

Moser, 6,121,771, discloses in Fig. 1 the use of a magnetic force microscopy probe with bar magnet tip 20, in combination with computer 77 and display 78, for generating external magnetic field applied to magnetic material sample 60; computer 77 for analyzing the information in the magnetic material sample 60 and generating an image on display 78.

It would have been obvious under 35 USC 103(a) to one of ordinary skill in the art at the time of the invention was made to utilize the magnetic force microscopy probe with bar magnet tip 20, in combination with computer 77 and

display 78, in Fig. 1 of Moser, 6,121,771, to combine with Fig. 1 of Redon et al., 6,603,677, for generating locally external-applied magnetic field, analyzing the information and displaying the image.

What is not shown in Fig. 1 of Redon et al., 6,603,677, which is modified by Fig. 1 of Moser, 6,121,771, is the magnetic tip of the stylus being a current-carrying coil as recited in claims 7 and 13.

However, the microscopy probe with bar magnet tip 20 in Fig. 1 of Moser, 6,121,771, obviously can provide the same desired result of generating externally-applied magnetic field.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRONG PHAN whose telephone number is (571) 272-1794. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, HOAI HO can be reached on (571)272-1777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRONG PHAN
PRIMARY EXAMINER